MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN WORKSHOP

January / February 2004

Purpose of Workshop

The purposes of this Workshop are to:

- Provide an overview of the planning process

- Present information regarding regional hazards associated risks

- Receive your feedback in order to develop specific mitigation goals, objectives, and action items for the Plan

Please complete the survey and provide your comments.

Disaster Mitigation Act of 2000

DMA 2000 Quick Facts

- Signed into law in October 2000 (PL 106-390)

- Paradigm shift from focus on response and recovery

What Does DMA 2000 Include?

- New prerequisites for HMGP funding
  – Completion of Mitigation Plan

- Increased emphasis on state/local interaction as a framework for planning

- Plans must be approved by November 1, 2004 for HMGP and PDM eligibility

- There must be open public involvement in the formation of the plan

What Does this Mitigation Planning Effort Include?

Natural and technological (man-made) hazards:

- Avalanche
- Coastal Erosion
- Coastal Storm
- Dam Failure
- Drought
- Earthquake
- Expansive Soils

- Extreme Heat
- Flood
- Hailstorm
- Hurricane
- Land Subsidence
- Landslide
- Severe Winter Storm

- Tornado
- Tsunami
- Volcano
- Wildfire
- Windstorm
- Man-made Hazards (various)

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Hazard Mitigation versus Emergency Operations Planning

- Hazard Mitigation Plan

  A pre-disaster, strategic plan written to guide how a community will lower its risk and exposure to disasters

- Emergency Operations Plan (EOP)

  A response plan written to demonstrate how a community will respond in the wake of an emergency or a disaster

San Diego County

- Board of Supervisors/City Councils
  - Initiate, authorize and support the hazard mitigation planning process
  - Adopt the Hazard Mitigation Plan

- Unified Disaster Council
  - Policy Making

- Office of Emergency Services (OES)
  - Project management
  - Community liaison
  - Meeting coordination and facilitation
  - Active project support and involvement

The Planning Process

Mitigation Planning Process

organize resources

1. assess community support
2. establish the planning team
3. engage the public

assess risks

1. identify hazards
2. profile hazard events
3. inventory assets
4. estimate losses

develop a mitigation plan

1. develop mitigation goals and objectives
2. identify and prioritize mitigation measures
3. prepare an implementation strategy
4. document the mitigation plan

implement the plan and monitor progress

1. adopt the mitigation plan
2. implement the plan recommendations
3. evaluate the results
4. revise the plan

Organize Resources

Local Participation

- County of San Diego and representatives from the region's 18 cities formed the Hazard Mitigation Working Group (HMWG)

- Public officials, fire chiefs/depts, police chiefs/depts, planners, private agencies, non-profit agencies, businesses, and the public provide input

- First Press Release – July 9, 2003

Local Participation *(continued)*

Hazard Mitigation Workgroup Meeting Dates

HMWG Meeting 1: 6/23/03

HMWG Meeting 2: 7/14/03

HMWG Meeting 3:   8/4/03

HMWG Meeting 4: 8/25/03

HMWG Meeting 5: 9/15/03

HMWG Meeting 6: 12/8/03

Public Meeting Dates

Workshop 1: 1/22/04

Workshop 2: 1/27/04

Workshop 3: 1/28/04

Workshop 4: 1/29/04

Workshop 5:   2/4/04

Mitigation Planning Process

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Assess Risks
Identify & Profile Hazards

Hazard Identification, Analysis & Vulnerability Assessment

- Identify hazards that threaten the County
- Determine their probability of occurrence and what areas they can affect
- Identify community assets that may be affected
- Estimate the losses that may result from the hazard

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Regional Hazards Identified

1. Coastal Storm / Coastal Erosion / Tsunami
2. Dam Failure
3. Earthquake
4. Liquefaction
5. Fire (structural and wildfires)
6. Flood
7. Landslide (rain-induced)
8. Man-made Hazards (FOUO)

Probability by geographic location was evaluated

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Loss Estimation

- Loss is a function of the Structural, Content, and Use Value of an Asset

- Steps for Calculating Loss

  1. Calculate Values for Structural, Content, and Use of Asset

  2. Multiply Structural, Content, and Use Values **x** Percent Damage

  3. Total Loss = Sum of Structural, Content, and Use Losses

- HAZUS and other models were utilized to calculate loss associated with each Hazard

Assets Inventory

Jurisdiction	Population	Residential Buildings		Commercial Buildings	
		Building Count	Value (x$1000)	Building Count	Value (x$1000)
Carlsbad	77,889	29,070	7,907,995	317	1,657,846
Chula Vista	173,491	43,573	11,347,235	407	1,629,766
Coronado	24,189	6,734	2,975,822	80	292,836
Del Mar	4,389	2,044	597,430	31	147,280
El Cajon	94,531	18,124	5,818,497	299	1,259,050
Encinitas	58,015	21,678	5,652,852	207	1,005,468
Escondido	133,666	31,374	8,310,439	409	1,891,392
Imperial Beach	26,849	5,185	1,606,094	36	123,364
La Mesa	53,856	14,205	4,309,581	158	735,906
Lemon Grove	26,114	7,224	1,783,371	50	223,048
National City	54,081	8,776	2,933,551	157	708,696
Oceanside	160,421	45,696	11,476,291	274	1,244,742
Poway	48,054	15,684	4,105,140	153	733,510
San Diego (City)	1,223,503	309,774	95,131,220	4,326	19,740,288
San Marcos	55,013	15,191	3,356,696	239	907,530
Santee	52,439	16,362	3,684,154	123	460,806
Solana Beach	12,766	5,171	1,531,192	100	438,930
Unincorporated - Rural	33,749	14,187	3,675,859	107	423,636
Unincorporated - Urban Core	410,798	126,360	31,446,688	639	2,762,220
Vista	89,926	20,725	5,517,933	210	911,012
TOTAL	2,813,739	757,137	$213,168,040	8,322	$37,297,326

Critical Facilities Inventory

| Jurisdiction	Airport Facility	Bridge	Bus Facility	Comm /Utilities	Electric Facility	Emerg/Police/Fire Station	Gov't Office /Civic Center	Hospital or Care Facility	Infra-structure	Port Facility	Potable/Waste Water Facility	Rail Station	School	TOTAL
Carlsbad	1	33	0	18	1	9	4	0	95	0	2	2	30	195
Chula Vista	0	44	2	32	1	10	4	5	67	1	1	2	60	229
Coronado	1	1	0	3	0	3	2	1	40	0	0	0	11	62
Del Mar	0	5	0	6	0	1	7	0	18	0	0	0	1	38
El Cajon	1	37	1	10	3	8	3	10	29	0	0	3	40	145
Encinitas	0	16	0	22	1	8	3	7	50	0	1	0	35	143
Escondido	0	74	1	19	0	6	5	1	34	0	1	1	48	190
Imperial Beach	1	1	0	1	0	2	1	0	5	0	0	0	9	20
La Mesa	0	36	0	8	1	5	1	2	30	0	1	5	27	116
Lemon Grove	0	8	0	1	0	2	2	0	11	0	0	1	10	35
National City	0	47	1	4	2	3	2	3	42	5	1	5	28	143
Oceanside	1	43	2	19	0	9	5	1	76	0	1	1	49	207
Poway	0	45	1	27	0	3	3	1	14	0	1	0	24	119
San Diego (City)	4	489	12	153	9	83	61	21	575	62	2	17	413	1,901
San Marcos	0	12	0	12	0	9	5	2	32	0	0	1	22	95
Solana Beach	0	5	0	2	0	1	1	0	16	0	0	1	8	34
Unincorporated - Rural	0	24	0	23	1	8	0	0	21	0	0	0	17	94
Unincorporated - Urban Core	37	320	2	289	2	109	8	3	1,120	0	1	0	177	2,068
Vista	0	12	0	11	0	7	4	0	23	0	0	0	32	89
TOTAL Exposure (x$1000)	46	1,267	23	672	21	289	124	57	2,315	68	13	40	1,057	5,992

Coastal Storm / Coastal Erosion / Tsunami

Coastal Storm
Coastal Erosion
Tsunami
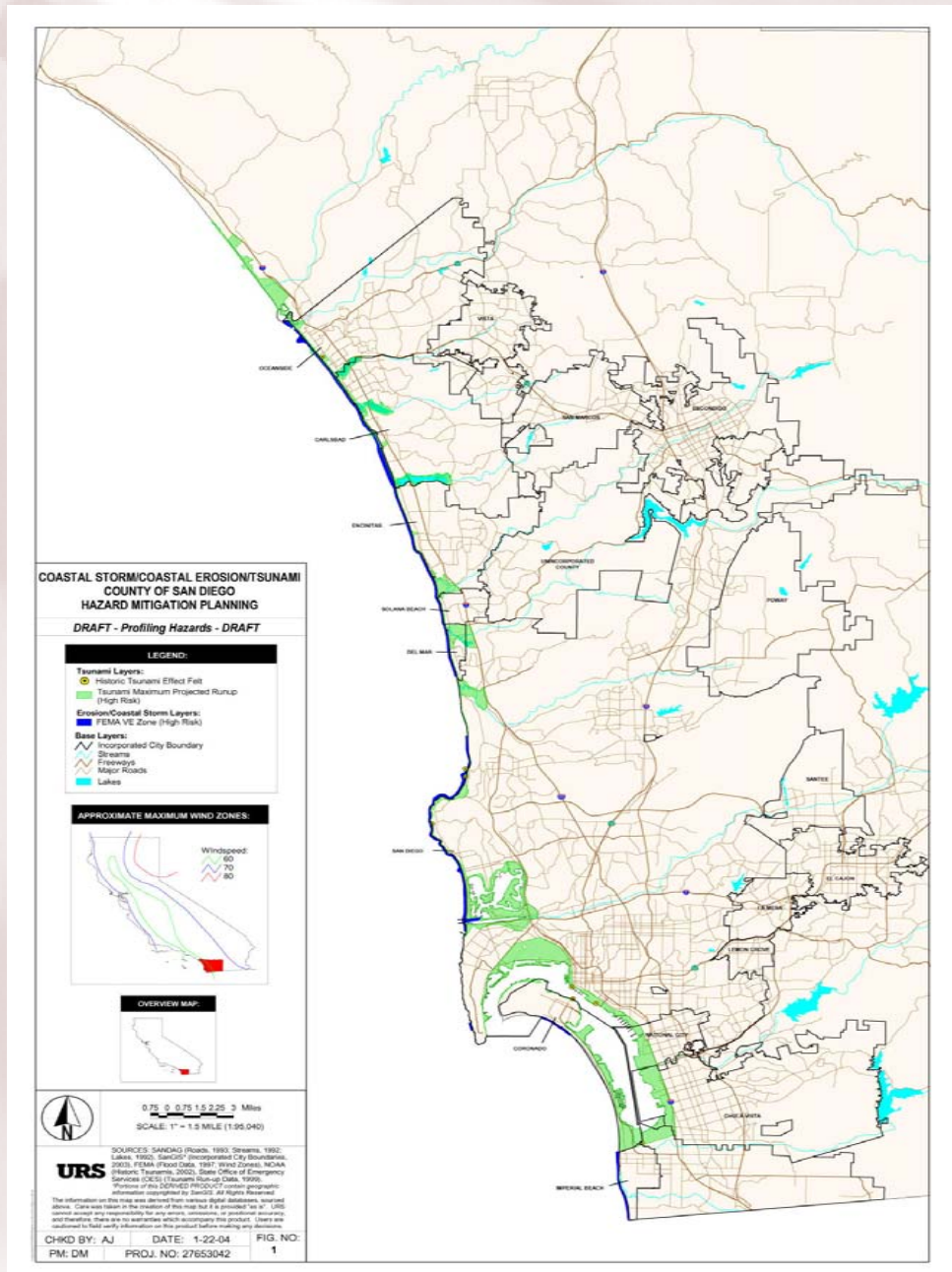
Coastal Storm / Coastal Erosion Loss

Jurisdiction	Exposed Population	Residential Buildings at Risk		Commercial Buildings at Risk	
		Building Count	Potential Exposure (x$1000)	Building Count	Potential Exposure (x$1000)
Carlsbad	26	22	6,988	0	0
Chula Vista	0	0	0	0	0
Coronado	6	1	22,549	1	3,358
Del Mar	97	63	20,670	0	0
El Cajon	0	0	0	0	0
Encinitas	699	335	85,674	2	5,958
Escondido	0	0	0	0	0
Imperial Beach	453	95	41,124	0	0
La Mesa	0	0	0	0	0
Lemon Grove	0	0	0	0	0
National City	0	0	0	0	0
Oceanside	181	87	28,962	0	0
Poway	0	0	0	0	0
San Diego (City)	1,849	749	310,630	12	118,954
San Marcos	0	0	0	0	0
Santee	0	0	0	0	0
Solana Beach	821	253	113,905	1	732
Unincorporated - Rural	0	0	0	0	0
Unincorporated - Urban Core	499	320	70,575	0	0
Vista	0	0	0	0	0
TOTAL	**4,631**	**1,925**	**$701,077**	**16**	**$129,002**

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Tsunami Loss

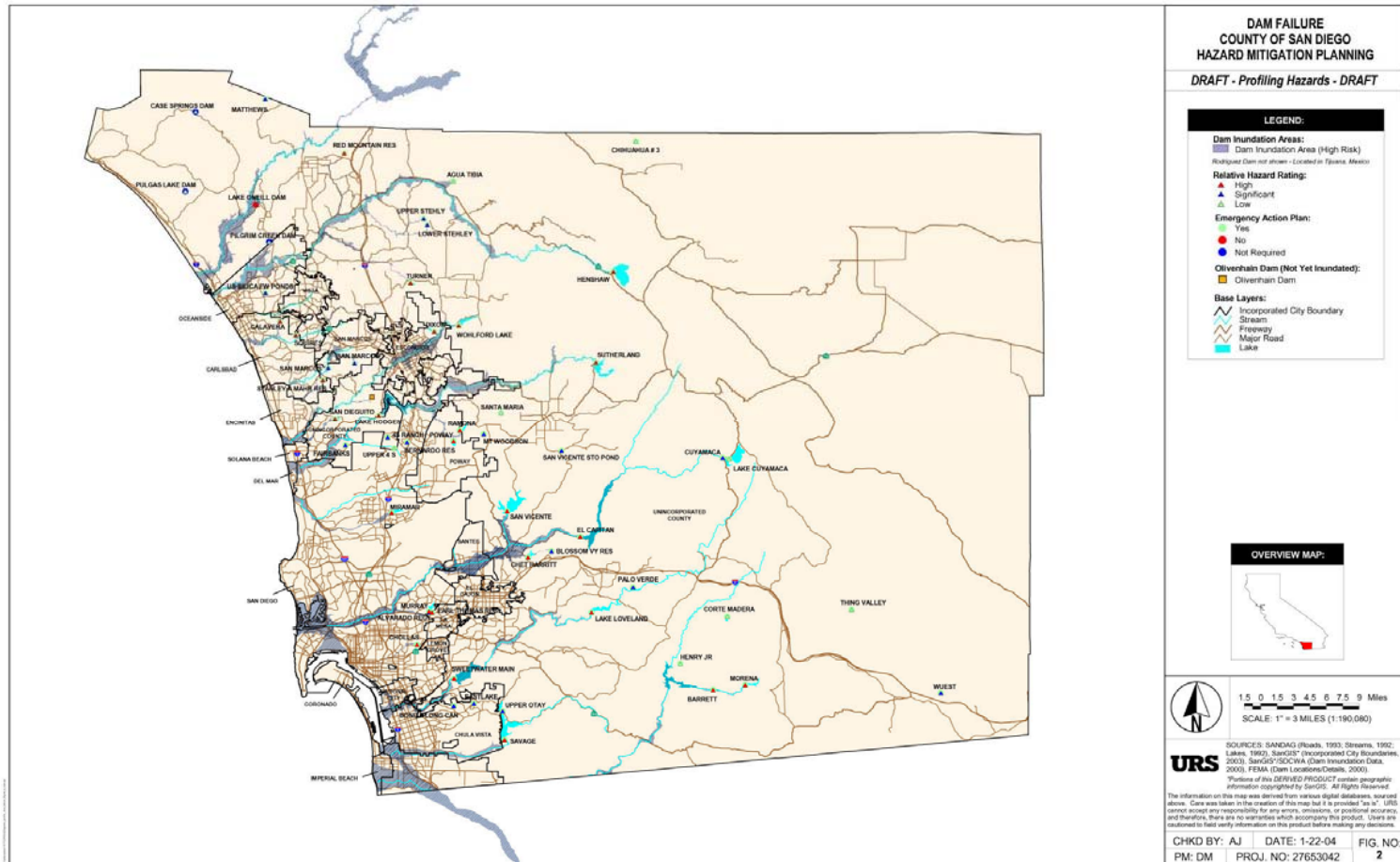| Jurisdiction	Exposed Population	Residential Buildings at Risk		Commercial Buildings at Risk	
		Building Count	Potential Exposure (x$1000)	Building Count	Potential Exposure (x$1000)
Carlsbad	1,162	361	129,484	3	19,952
Chula Vista	802	163	25,090	11	73,148
Coronado	5,149	1,822	630,179	3	25,776
Del Mar	1,021	539	158,928	5	28,200
El Cajon	0	0	0	0	0
Encinitas	704	320	85,060	2	7,172
Escondido	0	0	0	0	0
Imperial Beach	72	13	3,172	0	0
La Mesa	0	0	0	0	0
Lemon Grove	0	0	0	0	0
National City	258	51	12,214	8	41,166
Oceanside	1,506	405	224,276	9	21,400
Poway	0	0	0	0	0
San Diego (City)	25,578	5,145	3,395,635	294	1,077,374
San Marcos	0	0	0	0	0
Santee	0	0	0	0	0
Solana Beach	521	159	78,974	0	0
Unincorporated - Rural	0	0	0	0	0
Unincorporated - Urban Core	533	327	74,389	0	702
Vista	0	0	0	0	0
TOTAL	**37,306**	**9,305**	**$4,817,401**	**335**	**$1,294,890**

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Dam Failure

Above: Otay Dam Failure (1916)

Right: Sweetwater Dam Failure (1916)

Dam Failure

Dam Failure Loss

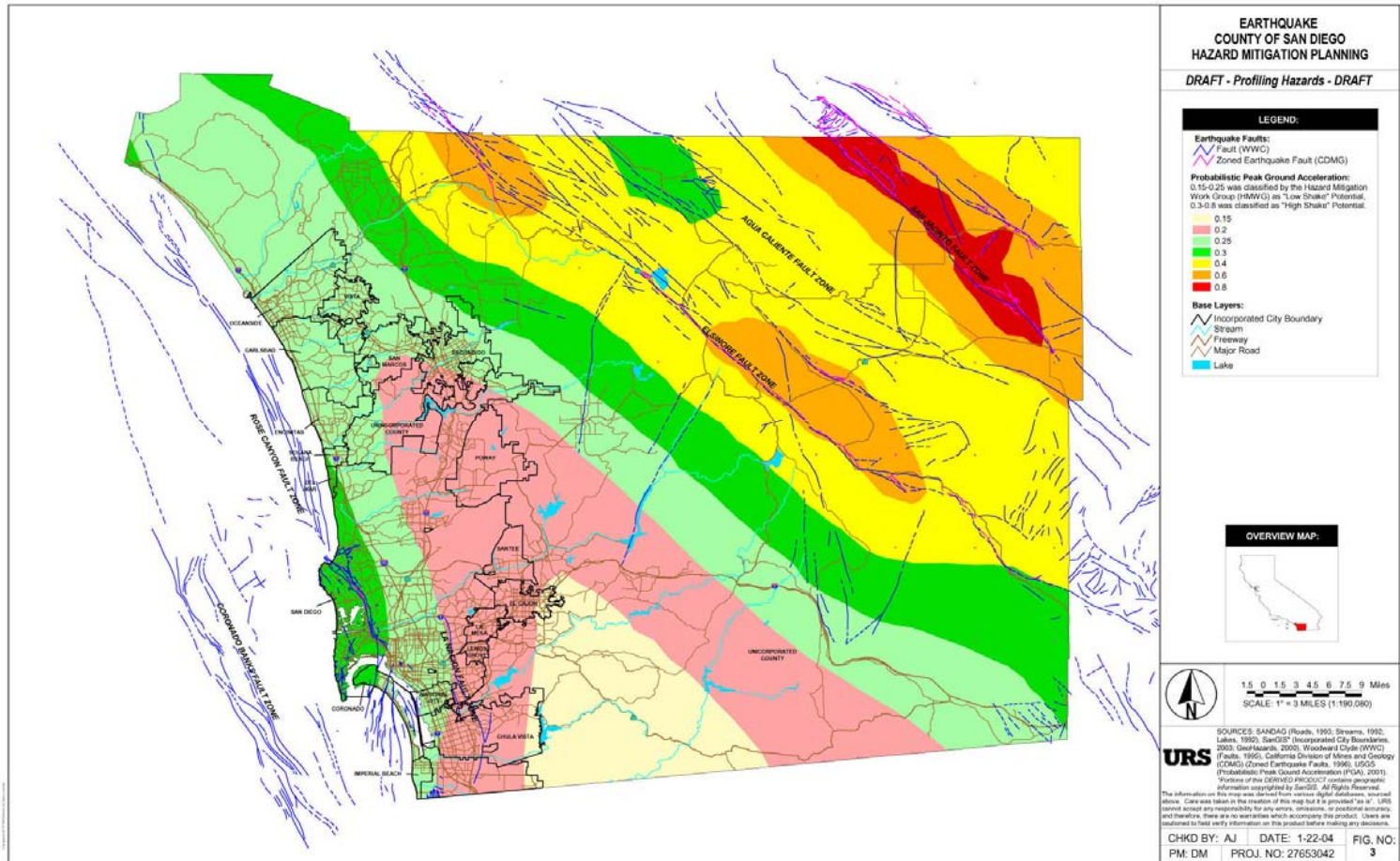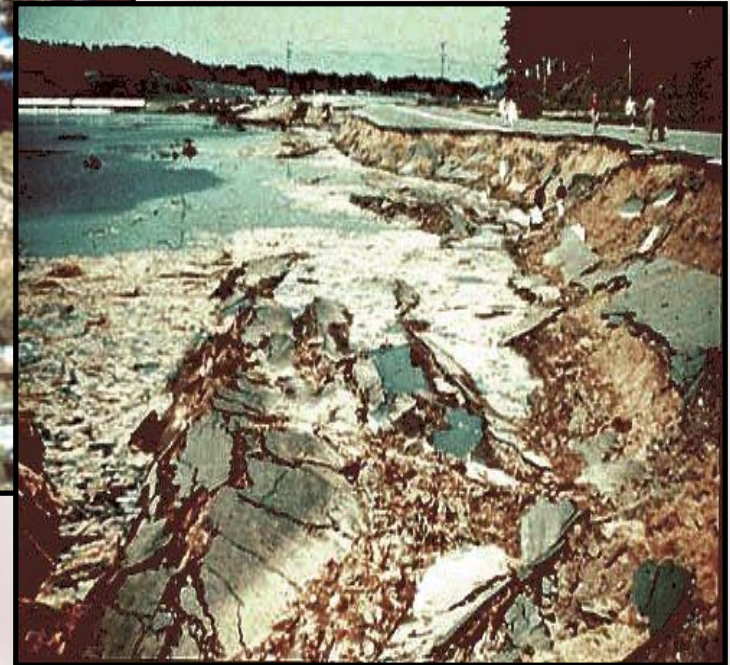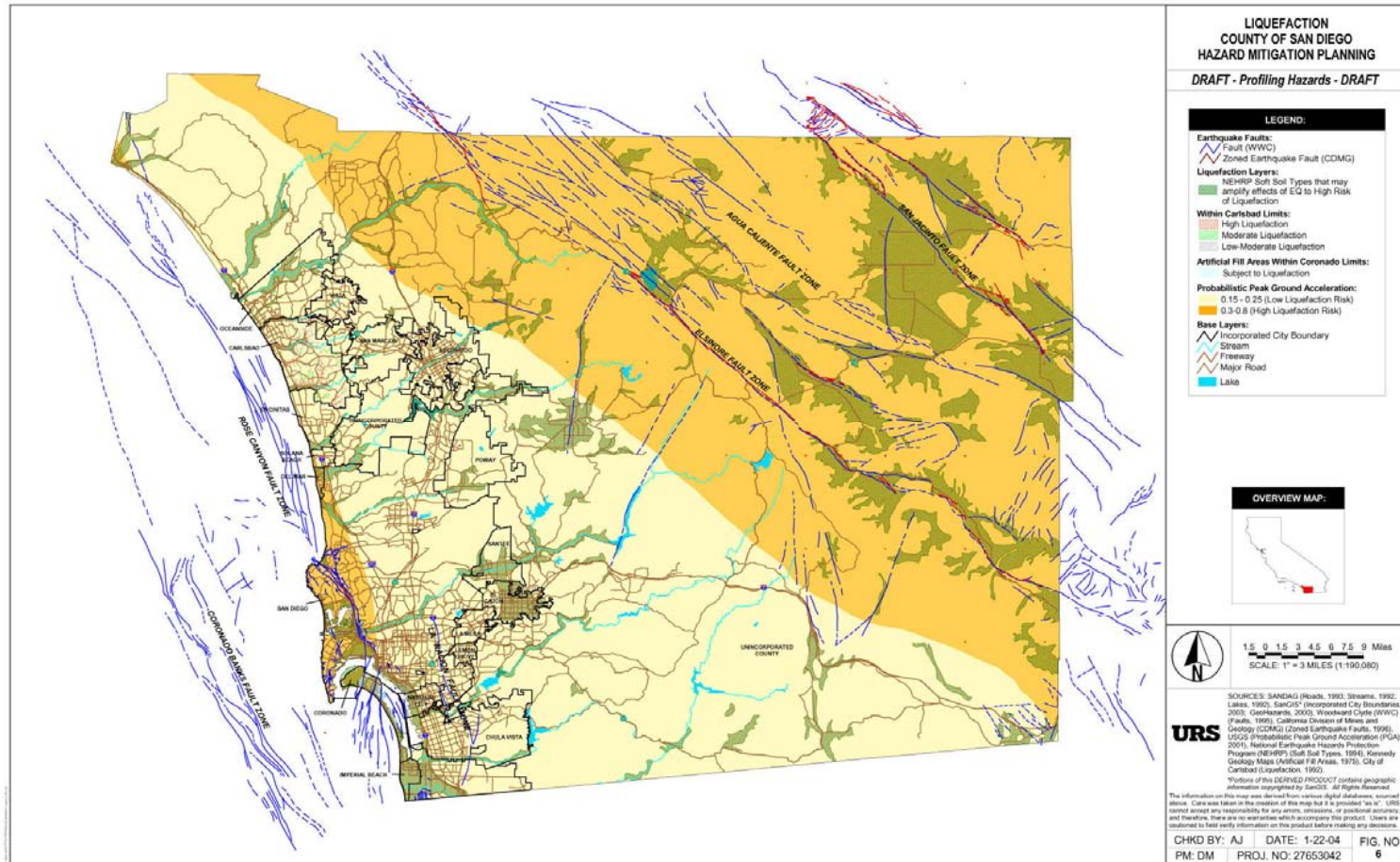| Jurisdiction	Exposed Population	Residential Buildings at Risk		Commercial Buildings at Risk	
		Building Count	Potential Exposure (x$1000)	Building Count	Potential Exposure (x$1000)
Carlsbad	4,324	1,907	369,968	3	14,062
Chula Vista	13,083	3,032	692,488	94	348,684
Coronado	89	27	2,200	0	0
Del Mar	1,814	894	260,224	8	41,008
El Cajon	0	0	0	0	0
Encinitas	1,016	476	133,785	16	57,618
Escondido	86,360	12,393	3,834,476	424	1,561,872
Imperial Beach	4,897	879	345,660	1	9,092
La Mesa	1,337	262	101,715	11	52,736
Lemon Grove	0	0	0	0	0
National City	1,895	349	86,809	106	464,094
Oceanside	29,816	8,255	1,799,284	52	217,872
Poway	0	0	0	0	0
San Diego (City)	135,234	22,834	8,612,306	1,164	5,630,720
San Marcos	1,584	427	101,770	27	83,598
Santee	44,595	13,677	2,888,845	228	859,108
Solana Beach	0	0	0	0	0
Unincorporated - Rural	3,420	2,144	576,336	6	34,534
Unincorporated - Urban Core	38,004	8,824	2,536,977	135	508,858
Vista	772	199	65,252	2	9,300
TOTAL	**368,240**	**76,579**	**$22,408,095**	**2,277**	**$9,893,156**

Earthquake
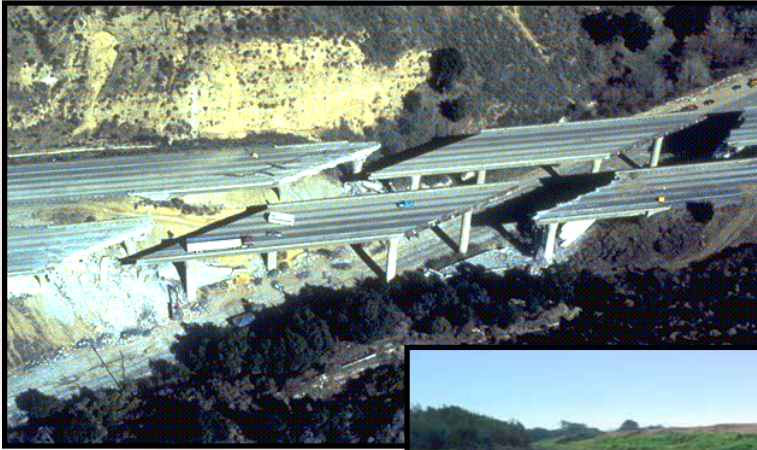
Earthquake

Liquefaction

Liquefaction

Earthquake & Liquefaction Loss

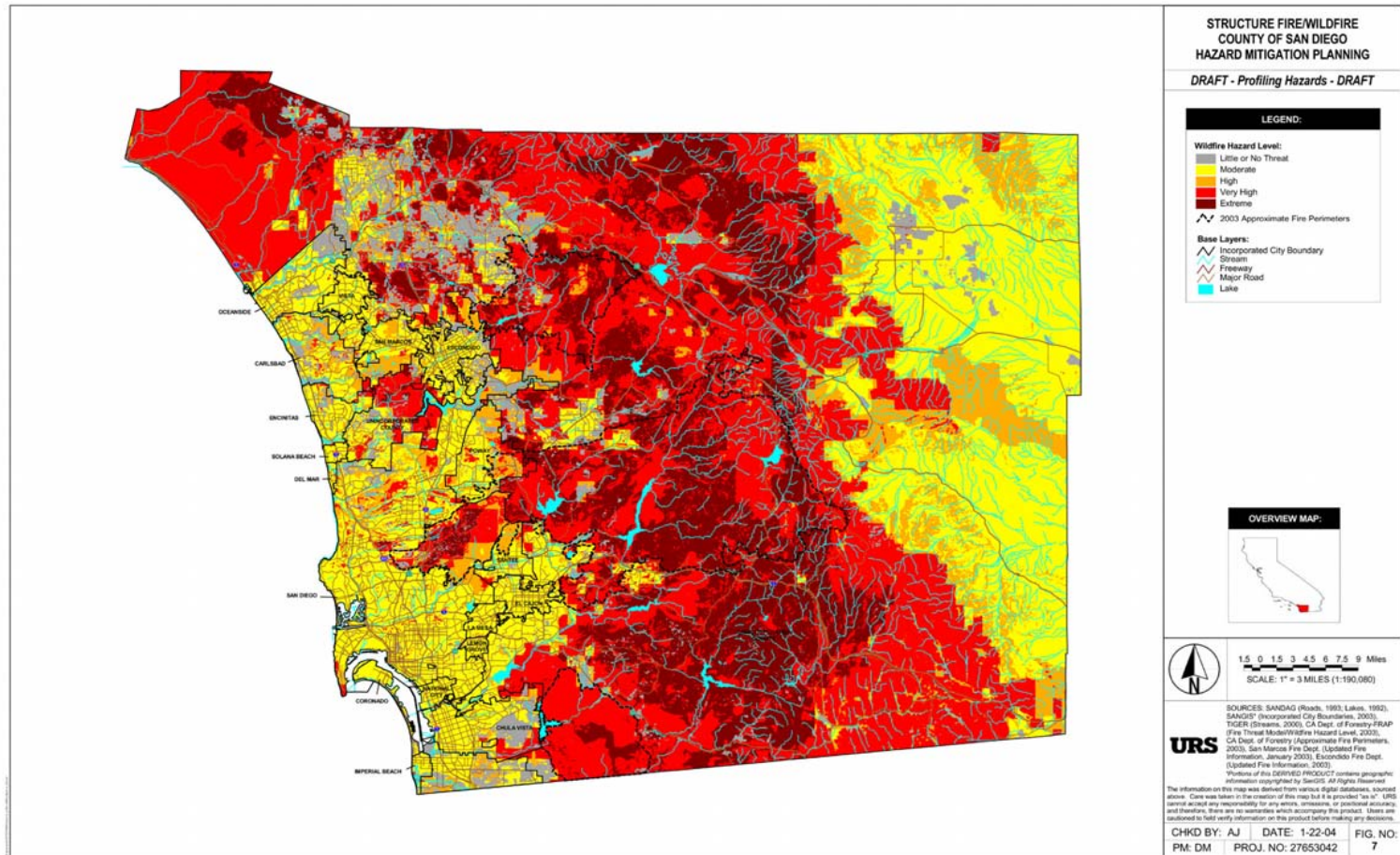| Jurisdiction	Exposed Population	Residential Buildings at Risk					Commercial Buildings at Risk				
		Building Count	Potential Loss from Shaking (x$1000)	Potential Added Loss from Liquefaction (x$1000)	Potential Added Loss from Landslide (x$1000)	Potential Exposure (x$1000)	Building Count	Potential Loss from Shaking (x$1000)	Potential Added Loss from Liquefaction (x$1000)	Potential Added Loss from Landslide (x$1000)	Potential Exposure (x$1000)
Carlsbad	77,889	29,070	2,649	0	524	7,907,995	317	998	0	352	1,657,846
Chula Vista	173,491	43,573	3,086	332	586	11,347,235	407	772	50	262	1,629,766
Coronado	24,189	6,734	1,309	156	208	2,975,822	80	224	0	75	292,836
Del Mar	4,389	2,044	235	0	46	597,430	31	110	0	27	147,280
El Cajon	94,531	18,124	1,739	0	319	5,818,497	299	726	0	218	1,259,050
Encinitas	58,015	21,678	1,962	0	536	5,652,852	207	659	0	209	1,005,468
Escondido	133,666	31,374	2,743	0	399	8,310,439	409	1,149	0	339	1,891,392
Imperial Beach	26,849	5,185	680	149	94	1,606,094	36	87	8	34	123,364
La Mesa	53,856	14,205	1,026	0	121	4,309,581	158	318	0	82	735,906
Lemon Grove	26,114	7,224	454	0	56	1,783,371	50	95	0	32	223,048
National City	54,081	8,776	874	56	203	2,933,551	157	420	0	132	708,696
Oceanside	160,421	45,696	4,336	646	1,156	11,476,291	274	849	34	293	1,244,742
Poway	48,054	15,684	776	0	141	4,105,140	153	257	0	82	733,510
San Diego (City)	1,223,503	309,774	32,046	1,648	8,721	95,131,220	4,326	12,428	725	4,231	19,740,288
San Marcos	55,013	15,191	934	0	113	3,356,696	239	518	0	153	907,530
Santee	52,439	16,362	1,076	0	279	3,684,154	123	252	0	108	460,806
Solana Beach	12,766	5,171	573	62	108	1,531,192	100	312	15	84	438,930
Unincorp - Rural	33,749	14,187	886	0	152	3,675,859	107	149	0	43	423,636
Unincorp - Urban Core	410,798	126,360	8,963	1	2,113	31,446,688	639	1,123	0	329	2,762,220
Vista	89,926	20,725	1,597	0	251	5,517,933	210	411	0	116	911,012
TOTAL	2,813,739	757,137	$67,943	$3,050	$16,126	$213,168,040	8,322	$21,860	$832	$7,202	$37,297,326

Fire: Structural / Wildfire

Fire: Structural / Wildfire

Fire: Structural / Wildfire Loss

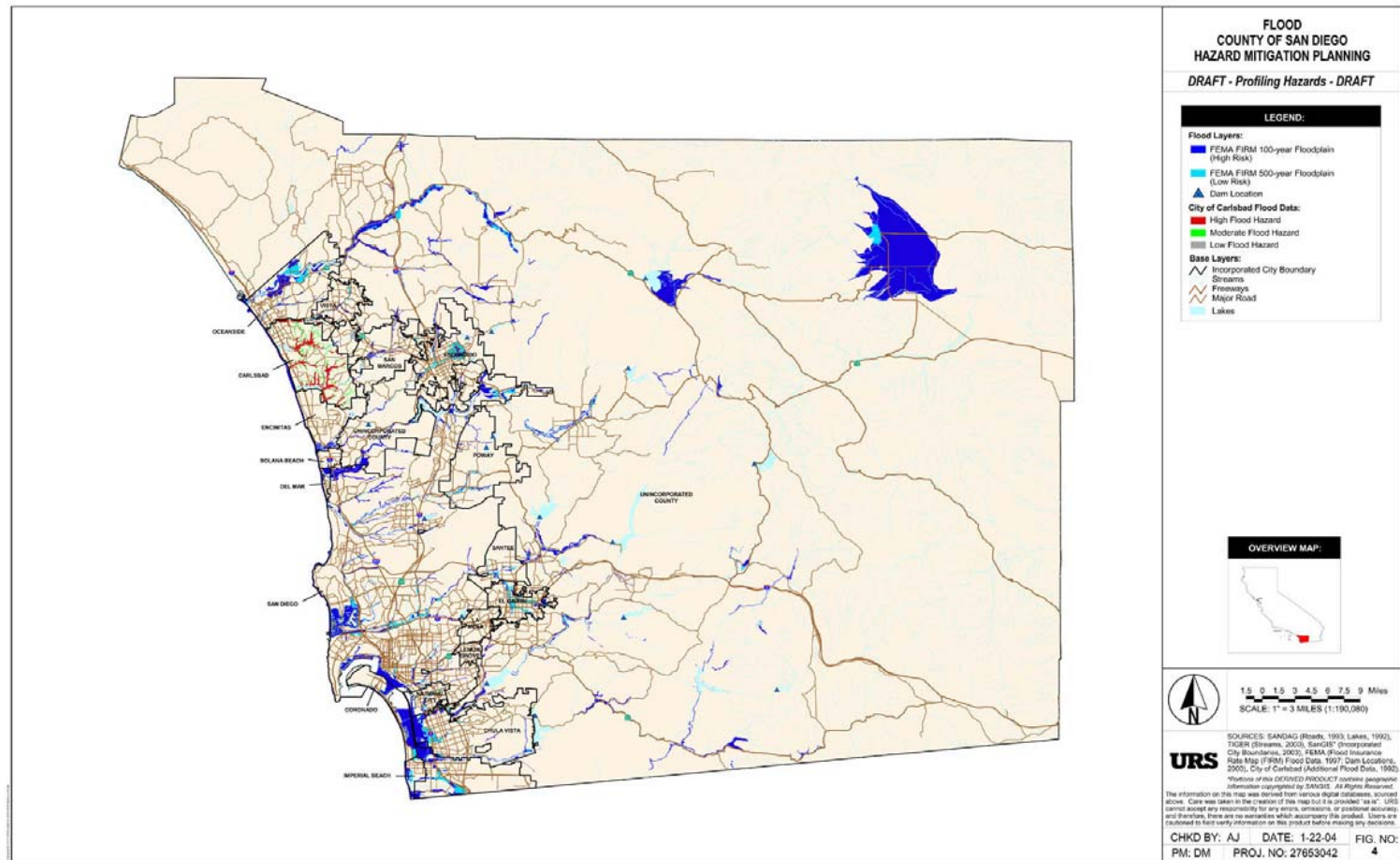| Jurisdiction	Exposed Population	Residential Buildings at Risk		Commercial Buildings at Risk	
		Building Count	Potential Exposure (x$1000)	Building Count	Potential Exposure (x$1000)
Carlsbad	71,341	26,133	7,128,193	234	1,253,514
Chula Vista	165,665	40,946	10,642,195	398	1,582,618
Coronado	20,337	5,645	2,548,634	77	270,068
Del Mar	4,039	1,893	554,356	30	140,984
El Cajon	94,346	18,075	5,806,666	299	1,255,948
Encinitas	53,466	20,115	5,237,714	194	959,552
Escondido	131,247	30,466	8,098,293	406	1,879,964
Imperial Beach	25,731	5,034	1,494,983	33	118,082
La Mesa	53,856	14,205	4,309,581	158	735,906
Lemon Grove	25,023	6,871	1,706,745	47	208,246
National City	51,399	8,691	2,556,844	157	706,866
Oceanside	154,991	44,134	11,057,090	265	1,204,402
Poway	45,446	14,741	3,862,639	142	690,840
San Diego (City)	1,181,125	299,308	91,609,094	4,091	18,756,440
San Marcos	52,854	14,460	3,183,526	237	887,766
Santee	49,739	15,865	3,541,162	114	429,376
Solana Beach	12,766	5,171	1,531,192	100	438,930
Unincorporated - Rural	28,743	12,147	3,149,482	98	380,728
Unincorporated - Urban Core	377,089	113,784	28,662,993	600	2,529,000
Vista	86,214	19,707	5,242,946	187	825,790
TOTAL	**2,685,417**	**717,391**	**$201,924,328**	**7,867**	**$35,255,020**

Flood

Flood

Flood Loss: 100-Year Floodplain

Jurisdiction	Exposed Population	Residential Buildings at Risk				Commercial Buildings at Risk			
		Building Count	Potential Loss (x$1000)	Potential Exposure (x$1000)	Loss Ratio	Building Count	Potential Loss (x$1000)	Potential Exposure (x$1000)	Loss Ratio
Carlsbad	3,439	1,284	50,980	349,060	0.15	14	10,081	70,252	0.14
Chula Vista	6,112	1,535	28,966	399,697	0.07	44	19,312	174,588	0.11
Coronado	1,469	409	29,080	180,617	0.16	4	2,186	12,475	0.18
Del Mar	1,032	481	4,716	140,471	0.03	5	2,517	23,705	0.11
El Cajon	3,562	683	89,232	219,195	0.41	26	46,466	107,743	0.43
Encinitas	1,398	523	17,726	136,197	0.13	10	8,015	47,307	0.17
Escondido	11,304	2,654	53,299	702,787	0.08	61	20,072	280,711	0.07
Imperial Beach	1,347	261	9,342	80,571	0.12	1	474	1,626	0.29
La Mesa	29	8	462	2,310	0.20	1	39	310	0.13
Lemon Grove	280	78	3,311	19,114	0.17	3	1,815	10,668	0.17
National City	2,702	439	19,845	146,557	0.14	37	21,306	163,349	0.13
Oceanside	16,487	4,697	78,453	1,179,427	0.07	58	15,922	258,954	0.06
Poway	3,986	1,301	14,390	340,434	0.04	12	1,666	56,298	0.03
San Diego (City)	49,530	12,541	338,856	3,851,085	0.09	331	153,581	1,509,387	0.10
San Marcos	2,751	760	8,227	167,840	0.05	51	11,394	191,996	0.06
Santee	3,286	1,026	8,386	230,816	0.04	24	2,572	86,723	0.03
Solana Beach	594	241	6,692	71,145	0.09	6	2,377	24,111	0.10
Unincorporated - Rural	1,339	563	25,619	145,818	0.18	6	2,633	22,015	0.12
Unincorporated - Urban Core	19,807	6,093	141,472	1,516,162	0.09	61	29,437	261,305	0.11
Vista	4,113	948	16,956	252,365	0.07	27	3,987	115,556	0.03
TOTAL	**134,567**	**36,525**	**$946,011**	**$10,131,667**	**2.36**	**782**	**$355,852**	**$3,419,080**	**2.57**

Flood Loss: 500-Year Floodplain

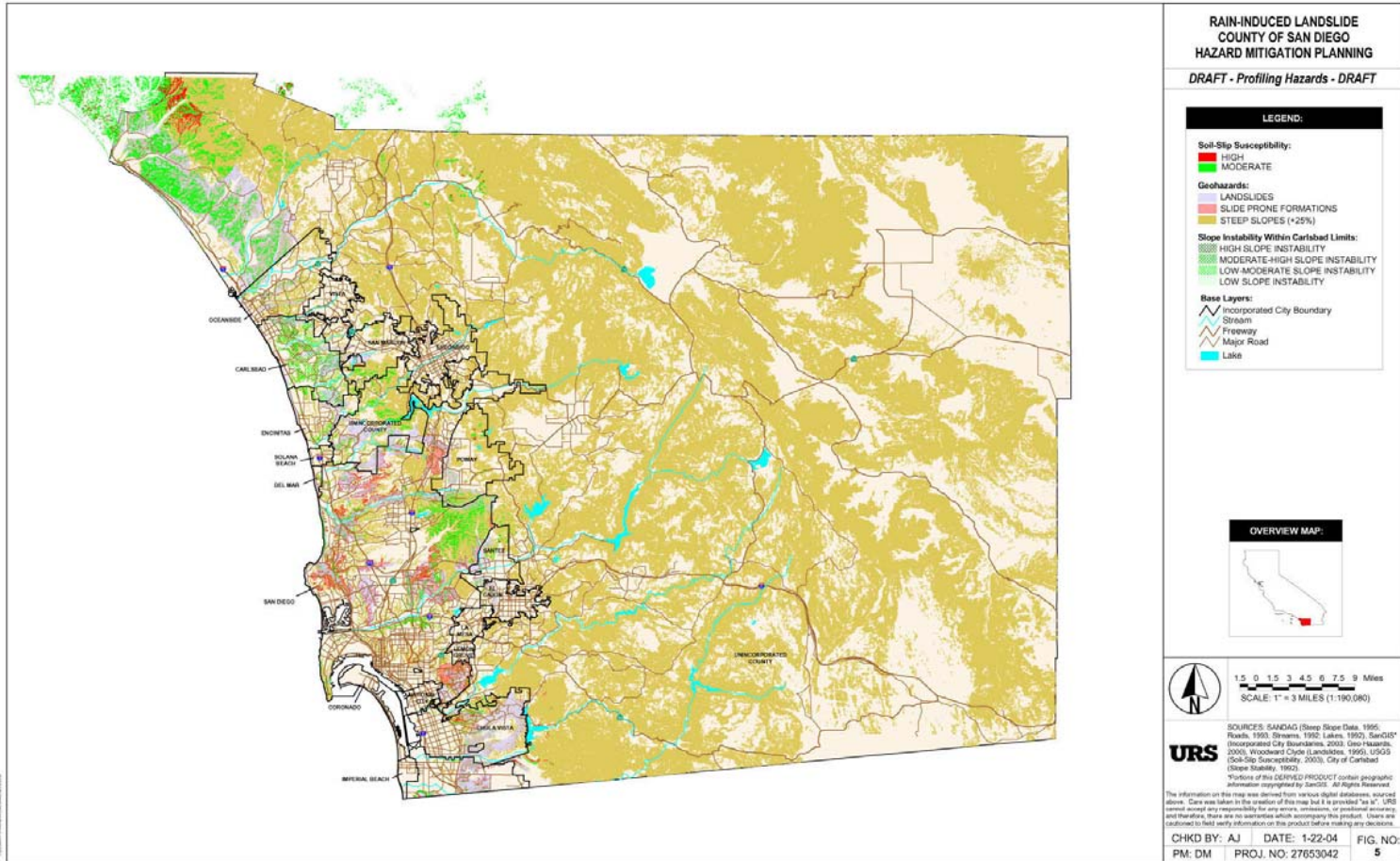| Jurisdiction	Exposed Population	Residential Buildings at Risk				Commercial Buildings at Risk			
		Building Count	Potential Loss (x$1000)	Potential Exposure (x$1000)	Loss Ratio	Building Count	Potential Loss (x$1000)	Potential Exposure (x$1000)	Loss Ratio
Carlsbad	3,485	1,301	51,969	353,823	0.15	14	10,081	71,437	0.14
Chula Vista	14,505	3,643	84,095	948,643	0.09	80	35,733	317,921	0.11
Coronado	2,155	600	37,464	265,099	0.14	5	2,745	17,812	0.15
Del Mar	1,063	495	5,717	144,600	0.04	6	2,641	24,524	0.11
El Cajon	4,096	786	101,929	252,074	0.40	30	53,145	123,905	0.43
Encinitas	1,427	534	18,097	139,023	0.13	11	8,218	49,067	0.17
Escondido	28,792	6,758	166,712	1,790,069	0.09	115	48,338	530,298	0.09
Imperial Beach	2,638	510	10,528	157,761	0.07	2	535	6,114	0.09
La Mesa	29	8	462	2,310	0.20	1	39	310	0.13
Lemon Grove	294	82	3,456	20,050	0.17	3	1,815	10,668	0.17
National City	6,206	1,007	26,843	336,590	0.08	71	35,786	319,499	0.11
Oceanside	32,014	9,120	193,198	2,290,231	0.08	73	22,570	327,958	0.07
Poway	5,345	1,745	28,045	456,544	0.06	16	3,805	72,154	0.05
San Diego (City)	74,812	18,942	540,536	5,816,853	0.09	581	277,197	2,650,980	0.10
San Marcos	2,971	821	9,825	181,245	0.05	54	13,125	204,173	0.06
Santee	4,282	1,337	16,283	300,830	0.05	31	6,466	116,060	0.06
Solana Beach	765	310	8,885	91,646	0.10	7	2,862	27,531	0.10
Unincorporated - Rural	1,623	683	28,828	176,746	0.16	7	2,833	23,910	0.12
Unincorporated - Urban Core	22,428	6,899	166,606	1,716,833	0.10	65	31,968	280,680	0.11
Vista	6,173	1,423	28,397	378,744	0.07	40	10,110	169,919	0.06
TOTAL	**215,103**	**57,004**	**$1,527,875**	**$15,819,713**	**2.34**	**1,212**	**$570,012**	**$5,344,920**	**2.44**

Rain-Induced Landslide

Rain-Induced Landslide

Rain-Induced Landslide Loss - High

Jurisdiction	Exposed Population	Residential Buildings at Risk		Commercial Buildings at Risk	
		Building Count	Potential Exposure (x$1000)	Building Count	Potential Exposure (x$1000)
Carlsbad	9,523	3,496	915,056	65	271,284
Chula Vista	23,097	7,422	1,891,842	20	90,030
Coronado	0	0	0	0	0
Del Mar	12	8	2,141	0	0
El Cajon	6,346	2,276	549,540	1	20,072
Encinitas	7,982	3,286	870,205	11	61,640
Escondido	0	0	0	0	0
Imperial Beach	0	0	0	0	0
La Mesa	3,880	696	349,310	10	29,634
Lemon Grove	199	56	12,135	0	0
National City	4,544	754	232,328	7	31,202
Oceanside	29,870	9,037	2,374,682	31	162,948
Poway	2,515	874	169,170	56	317,358
San Diego (City)	192,141	58,959	16,407,169	454	2,085,282
San Marcos	0	0	0	0	0
Santee	5,139	1,637	393,653	7	26,456
Solana Beach	3,792	1,282	401,003	14	69,664
Unincorporated - Rural	3,308	1,562	445,494	64	202,478
Unincorporated - Urban Core	11,326	2,644	1,020,225	4	29,492
Vista	889	280	61,655	1	10,892
TOTAL	**304,563**	**94,269**	**$26,095,608**	**745**	**$3,408,432**

Rain-Induced Landslide Loss - Moderate

| Jurisdiction	Exposed Population	Residential Buildings at Risk		Commercial Buildings at Risk	
		Building Count	Potential Exposure (x$1000)	Building Count	Potential Exposure (x$1000)
Carlsbad	3,366	1,262	351,103	0	10,484
Chula Vista	0	0	0	0	0
Coronado	0	0	0	0	0
Del Mar	125	71	19,860	0	480
El Cajon	4,494	1,305	285,104	1	6,826
Encinitas	417	167	46,539	0	0
Escondido	15,158	5,880	1,406,240	40	421,612
Imperial Beach	0	0	0	0	0
La Mesa	473	195	49,170	0	1,300
Lemon Grove	137	24	10,063	0	2,336
National City	0	0	0	0	0
Oceanside	2,500	965	232,517	1	8,168
Poway	11,354	4,030	1,120,165	27	98,302
San Diego (City)	27,973	8,898	2,561,491	53	207,458
San Marcos	7,627	2,382	564,765	30	127,238
Santee	5,728	1,627	357,839	17	51,630
Solana Beach	0	0	0	0	0
Unincorporated - Rural	6,243	2,449	614,584	2	25,342
Unincorporated - Urban Core	109,812	35,879	9,337,594	175	775,556
Vista	5,217	1,473	324,566	10	64,936
TOTAL	**200,624**	**66,607**	**$17,281,600**	**356**	**$1,801,668**

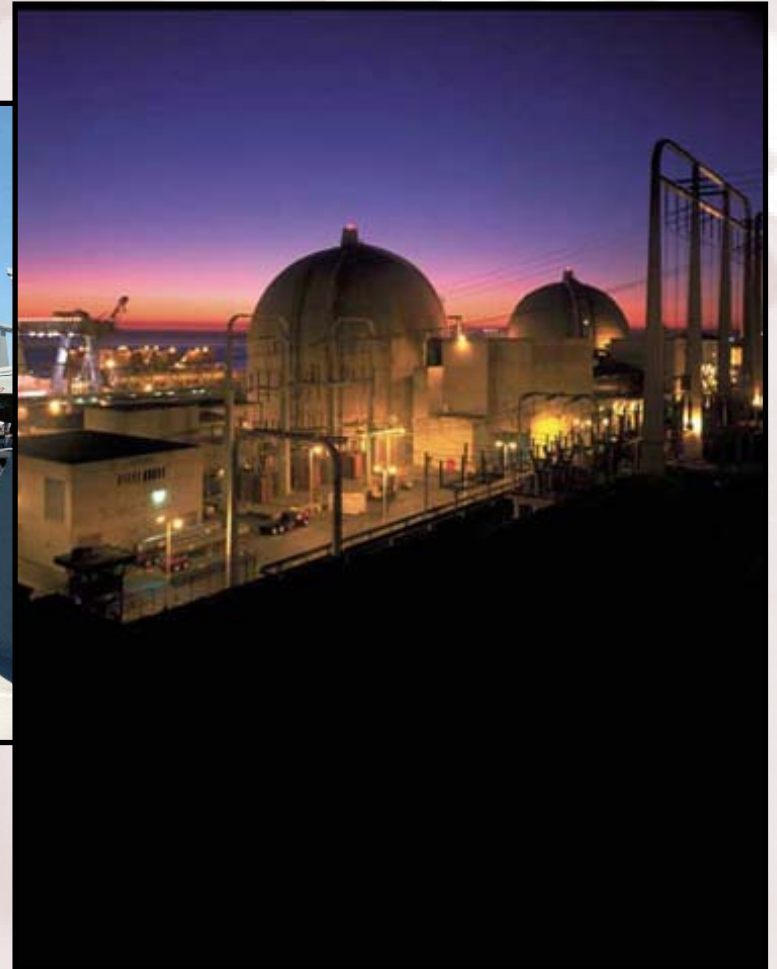# FOR OFFICIAL USE ONLY SECTION OF PLAN

Assessing Risks

Hazardous Materials Release
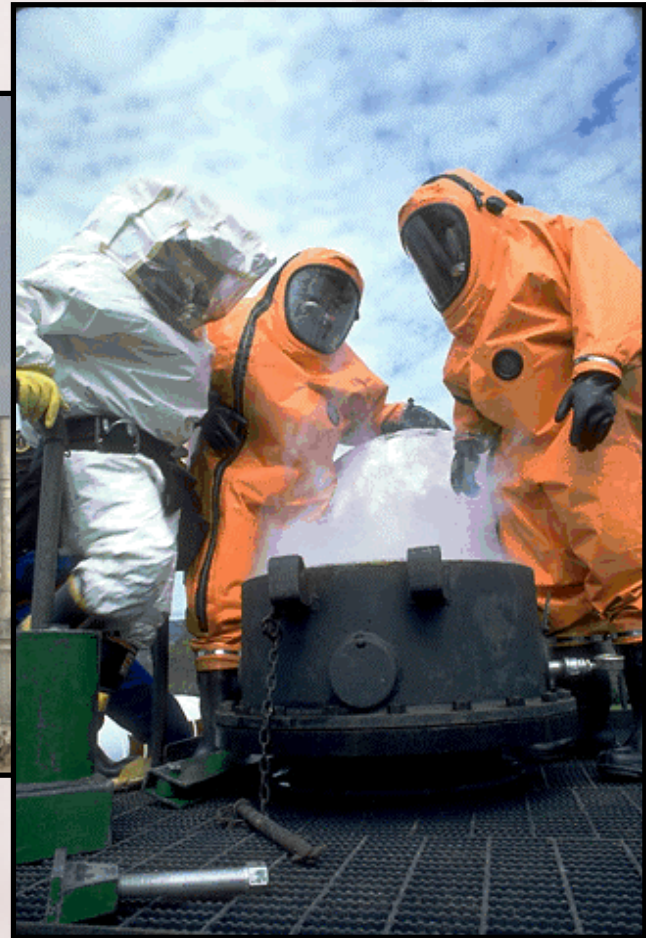
Nuclear Materials Release

Terrorism

Analyze Development Trends

POPULATION GROWTH
COUNTY OF SAN DIEGO
HAZARD MITIGATION PLANNING

FOR OFFICIAL USE ONLY - DRAFT

Change in Population
between 2000 and 2010

- 0 - 1,000
- 1,000 - 3,000
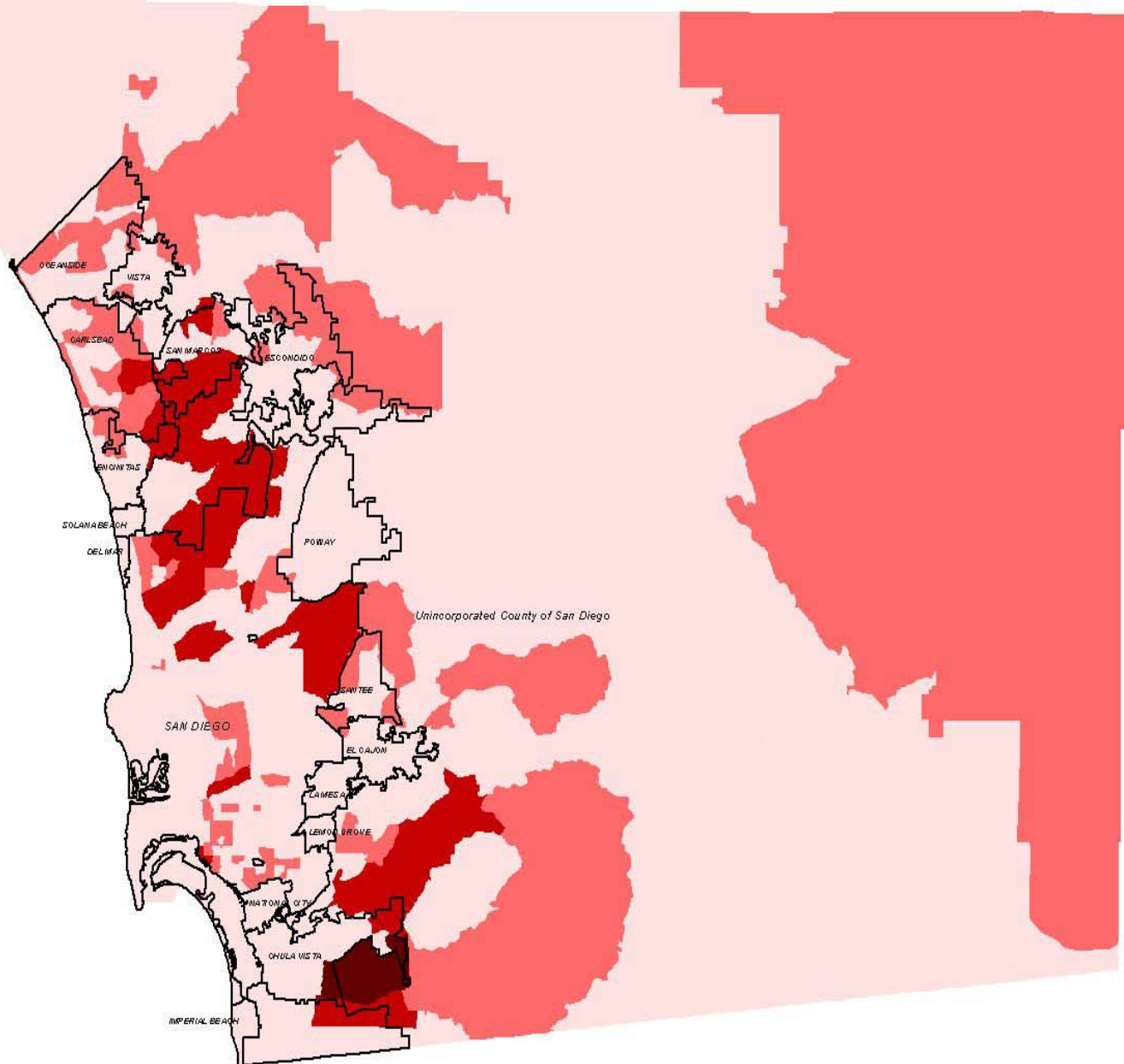- 3,001 - 8,000
- 8,001 - 35,500

Local Jursdictions

Unincorporated County of San Diego

2   0   2   4 Miles

URS   SOURCES: SANDAG 2000 Census Tracts
and Population Forecasts

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Mitigation Planning Process

organize resources
1. assess community support
2. establish the planning team
3. engage the public

assess risks
1. identify hazards
2. profile hazard events
3. inventory assets
4. estimate losses

develop a mitigation plan
1. develop mitigation goals and objectives
2. identify and prioritize mitigation measures
3. prepare an implementation strategy
4. document the mitigation plan

implement the plan and monitor progress
1. adopt the mitigation plan
2. implement the plan recommendations
3. evaluate the results
4. revise the plan

Developing the Mitigation Plan

Plan Development

Capabilities Assessment

Capabilities Assessment

- Process for identifying local governments' legal, administrative, fiscal, and technical capabilities

- Capabilities Assessment and Vulnerability Analysis provide direction for development of Plan Goals and Objectives

Legal/Regulatory Capabilities

- Building Codes

- Zoning Ordinances

- Subdivision Ordinances

- Special Purpose Ordinances

- Growth Management Ordinances

- Site Plan Reviews

- General Plans

- Capital Improvement Plans

- Economic Development Plans

- Emergency Response Plans

- Real Estate Disclosure Plans

Administrative & Technical Capabilities

- Planners and engineers with knowledge of land development and land management practices

- Engineers trained in construction practices related to building and infrastructure

- Planners and engineers with an understanding of natural or human-caused hazards

- Floodplain managers

- Surveyors

- Personnel with GIS or HAZUS skills

- Scientists familiar with hazards in the community

Fiscal Capabilities

- Community Development Block Grants

- Capital Improvements Project Funding

- Authority to levy taxes for specific purposes

- Fees for water, sewer, gas, or electric services

- Impact fees for homebuyers or developers for new development

- Incur debt through general obligation bonds

- Withhold spending in hazard-prone areas

Develop a Mitigation Plan

Goals, Objectives & Actions

Goals & Objectives

Goals

- General guidelines that explain what you want to achieve

- Broad statements with long-term perspectives

- Goals should reflect community's desire to protect people and structures and reduce costs of disaster response and recovery

- Goals should identify overall improvements you want to achieve

- *Sample Goal: Protect subdivisions from flooding*

Goals & Objectives

Objectives

- Defined strategies or implementation steps intended to attain the identified goals

- Objectives are specific, measurable, and have a defined horizon

- *Sample Objective: Reduce the number of structures in the 100-year flood plain*

Process for Identifying Objectives

- Use goals as basis for objectives

- Objectives should be more specific than goals

- Provide details about how to accomplish each goal

- Get public input for both goals and objectives

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Example of Goals & Objectives

Example of state goals and objectives:

North Carolina State Mitigation Goals (excerpted from the August 2001 state plan).

Goal 1 Maintain and enhance the North Carolina Division of Emergency Management's capacity to continuously make North Carolina less vulnerable to hazards.

Objective 1.1	Institutionalize hazard mitigation.
Objective 1.2	Improve organizational efficiency.
Objective 1.3	Maximize utilization of best technology.

Goal 2 Build and support local capacity and commitment to become continuously less vulnerable to hazards.

Objective 2.1	Increase awareness and knowledge of hazard mitigation principles and practice among local public officials.
Objective 2.2	Provide direct technical assistance to local public officials and help communities obtain funding for mitigation planning and project activities.
Objective 2.3	Encourage communities to develop, adopt, and implement local hazard mitigation plans.

Goal 3 Improve coordination and communication with other relevant organizations.

Objective 3.1	Establish and maintain lasting partnerships.
Objective 3.2	Streamline policies to eliminate conflicts and duplication of effort.
Objective 3.3	Incorporate hazard mitigation into activities of other organizations.

Goal 4 Increase public understanding, support, and demand for hazard mitigation.

Objective 4.1	Identify hazard-specific issues and needs.
Objective 4.2	Heighten public awareness of natural hazards.
Objective 4.3	Publicize and encourage the adoption of appropriate hazard mitigation actions.

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Identify & Prioritize Mitigation Measures

- Mitigation measures are actions that local jurisdictions can take to lessen hazard impacts

- Mitigation measures help achieve goals and objectives

- *Sample Mitigation Measures:*

  - Enhance the Open Space Brush Management program to ensure compliance with brush management requirements

  - Establish an urban/wild land fire technical working group in conjunction with County and State representatives

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Mitigation Planning Process

organize resources
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3. engage the public

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1. develop mitigation goals and objectives
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implement the plan and monitor progress
1. adopt the mitigation plan
2. implement the plan recommendations
3. evaluate the results
4. revise the plan

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Implement Plan & Monitor Progress

Development Strategy

Prepare an Implementation Strategy

- An Implementation Strategy is a comprehensive description of how mitigation measures will be implemented

- The strategy should show how the mitigations measures will be implemented, who will implement them, and when they will be implemented
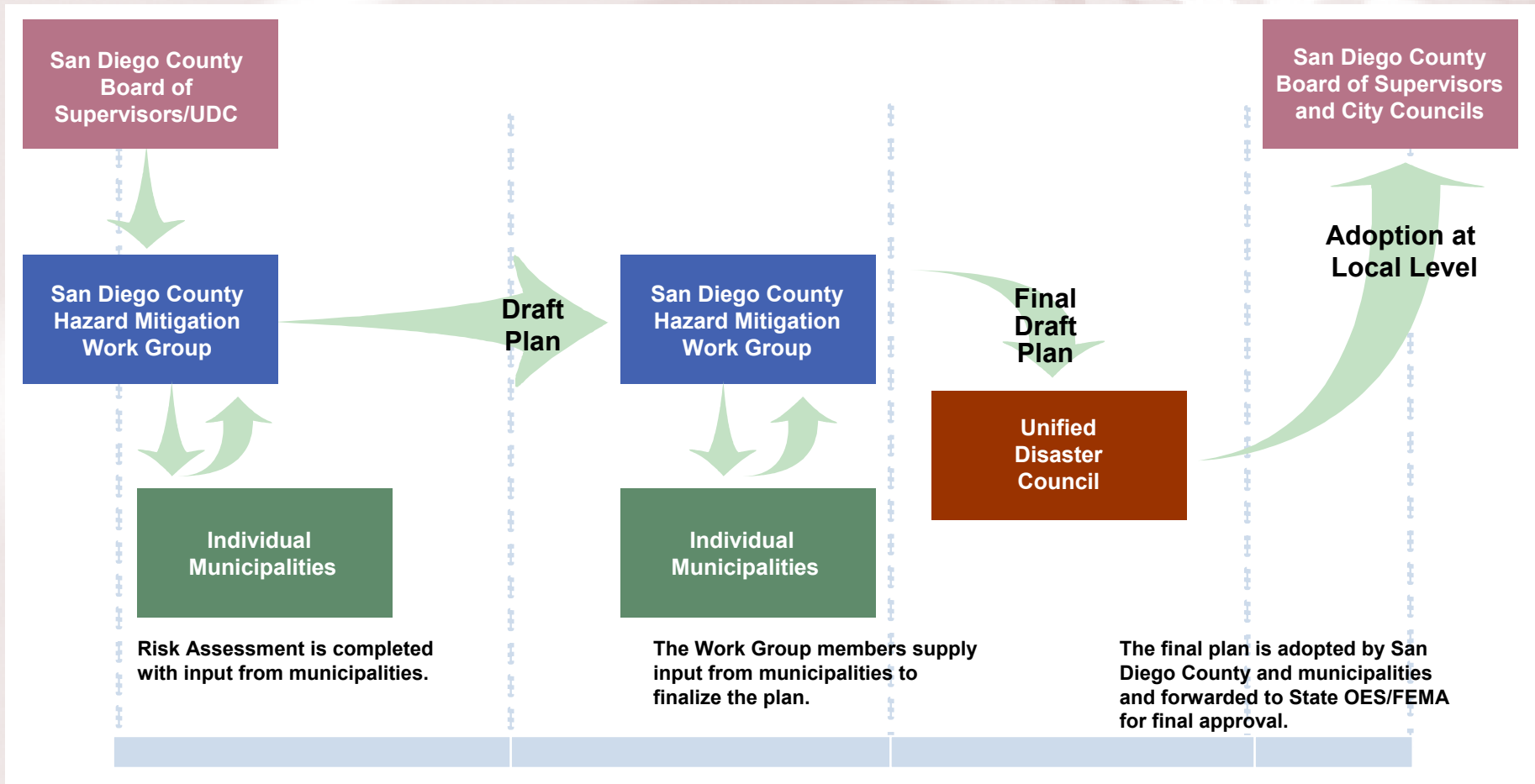
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Plan Development

Review Process

Mitigation Planning Process

San Diego County Board of Supervisors/UDC

San Diego County Hazard Mitigation Work Group

Draft Plan

San Diego County Hazard Mitigation Work Group

Final Draft Plan

Unified Disaster Council

San Diego County Board of Supervisors and City Councils

Adoption at Local Level

Individual Municipalities

Individual Municipalities

Risk Assessment is completed with input from municipalities.

The Work Group members supply input from municipalities to finalize the plan.

The final plan is adopted by San Diego County and municipalities and forwarded to State OES/FEMA for final approval.

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Timeline

July 2003 – February 2004	Public outreach
January 2004	Input due from jurisdictions
February 2004	Draft plan distributed
March 2004	Final plan distributed
March – May 2004	Plan adopted by County & Cities
June 2004	Adopted plan submitted to FEMA

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Your Assignment

With your input, the Plan will prioritize mitigation measures with appropriate implementation strategies.

Please review the materials on display, ask questions, and complete the survey to provide your comments.

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